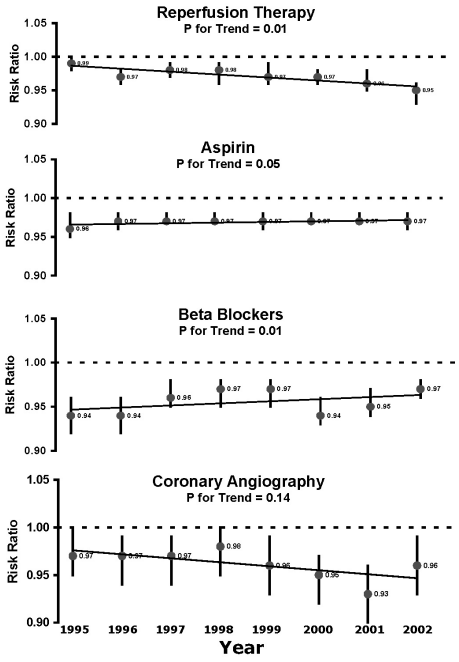
	Unadjusted	Adjusted
Variable	HR (95%CI)	HR (95%CI)
underweight	1.29(1.14,1.46)	1.26(1.10,1.43)
overweight	0.94(0.89,0.99)	1.01(0.96,1.06)
obese	1.06(0.98,1.14)	1.15(1.06,1.24)
severly obese	1.18(0.99,1.36)	1.22(1.06,1.40)
diabetes		1.47(1.38,1.56)
sex		0.98(0.92,1.04)
prior cabg		1.25(1.13,1.38)
prior ptca		0.99(0.85,1.17)
prior mi		1.11(1.05,1.17)
age (in 10 yrs incr.)		1.69(1.64,1.74)
Ejection Fraction (10% incr.)		0.86(0.84,0.88)
number of vessels		1.12(1.08,1.15)
Canadian class		1.05(1.02,1.08)
NYHA class		1.25(1.19,1.31)
hypertension		1.36(1.29,1.45)

Conclusion: Underweight, obese and severely obese patients undergoing CABG have a higher risk of long term mortality than normal weight patients. Being overweight does not affect the risk of long term mortality. In any future model, BMI must be treated as nonlinear variable.



POSTER SESSION

1135 Special Populations

Tuesday, March 09, 2004, 9:00 a.m.-11:00 a.m.
Morial Convention Center, Hall G
Presentation Hour: 10:00 a.m.-11:00 a.m.

1135-67 Time Trends in the Treatment of Women and Men With Acute Myocardial Infarction in the United States

Viola Vaccarino, Paul Frederick, Hal V. Barron, Jerome L. Abramson, Ajay Manhapra, Susmita Mallik, Nanette K. Wenger, Emory University School of Medicine, Atlanta, GA

Background. Sex-related disparities have been reported in the clinical management of MI, with women receiving less aggressive care than men. It is not known whether such disparities have decreased recently.
Methods. We examined sex differences over time (from 1994 to 2002) in the use of recommended treatments and procedures for MI among patients who were ideal candidates for each management strategy. The study population included 741,877 patients younger than 75 years from the National Registry of Myocardial Infarction.
Results. Among ideal candidates, at each time point women were treated less aggressively than men. After adjusting for patient and hospital characteristics sex differences in most management strategies became modest (less than 10%), but there was no evidence for a narrowing of the gap in recent years (Figure). For reperfusion therapy and coronary angiography the gap actually widened slightly. The largest observed difference after multivariable analysis was seen for CABG, which was on average 24% less used in women and did not significantly change over time. When results were stratified by race, black women emerged as the group least likely to receive recommended interventions, again with no evidence that the differences were decreasing in recent years.
Conclusion. Sex differences in the receipt of recommended interventions after MI, particularly coronary procedures, have persisted in recent years. Black women represent the group at highest risk for such disparities.

1135-68 Sex Differences in Invasive Cardiac Procedures in the Elderly: 1993-1999

Benjamin S. Paulson, Saif S. Rathore, Yun Wang, Judith H. Lichtman, Sharon-Lise Normand, Harlan M. Krumholz, Yale University, New Haven, CT, Harvard Medical School, Boston, MA

Background: Women are reported to have lower rates of cardiac catheterization and coronary revascularization than men after myocardial infarction (AMI), but it is unclear if sex differences in procedure use have changed in the past decade.
Methods: Medicare patients age 65 years and older hospitalized with a myocardial infarction (n=2 004 130, identified by principal discharge diagnosis ICD-9 410) between 1/1993 and 10/1999 were evaluated for trends in sex differences in use of cardiac catheterization (CATH), percutaneous cardiac intervention (PCI), coronary artery bypass graft surgery (CABG), and revascularization by either PCI or CABG (REVASC) within 60 days of admission. Multivariable hierarchical logistic regression analyses were used to derive risk-standardized CATH, PCI, CABG, REVASC rates adjusting for comorbid conditions and to assess if sex differences in procedure use had changed over time.
Results: Women were less likely than men to undergo CATH, PCI, CABG, or REVASC, in both unadjusted and adjusted analysis (P<0.001 for all comparisons), and the magnitude of this difference did not change over time (time-sex interaction terms P>0.05 for CATH, PCI, CABG, REVASC).
Conclusion: Sex differences in cardiac procedure in elderly patients hospitalized with AMI remained comparable between 1993 and 1999.

Rates of Cardiac Procedures after AMI

	1993	1994	1995	1996	1997	1998	1999
Unadjusted							
CATH Men	47.1	49.5	52.1	53.4	53.4	54.6	55.4
CATH Women	35.3	37.2	40.1	41.3	41.8	42.6	43.3
PCI Men	17.1	19.0	20.6	21.2	21.8	24.7	26.0
PCI Women	13.9	15.3	16.8	17.2	18.3	20.0	21.0
CABG Men	15.1	15.9	17.3	17.5	17.3	16.3	16.3
CABG Women	9.4	9.8	10.9	11.2	10.9	10.2	9.8
REVASC Men	31.1	33.7	36.7	37.6	38.1	40.1	41.3
REVASC Women	22.5	24.3	26.8	27.6	28.4	29.6	30.2
Adjusted							
CATH Men	42.2	44.2	46.3	48.2	49.2	51.3	53.3
CATH Women	36.6	38.5	41.4	43.4	45.1	47.3	49.5
PCI Men	14.7	16.3	17.6	18.6	19.7	23.1	25.2
PCI Women	14.0	15.4	17.0	17.9	19.6	22.4	24.6
CABG Men	13.4	14.1	15.4	15.9	16.0	15.5	15.8
CABG Women	9.8	10.3	11.4	11.9	11.9	11.5	11.4
REVASC Men	27.1	29.4	32.2	33.4	34.8	37.7	39.9
REVASC Women	22.9	24.9	27.4	28.9	30.7	33.2	35.1

1135-69 Impact of Gender on Outcome Following Percutaneous Coronary Intervention

John H. Chiu, Deepak L. Bhatt, Khaled M. Ziada, Stephen G. Ellis, The Cleveland Clinic Foundation, Cleveland, OH

Background: Prior reports have suggested that women have increased mortality compared to men following percutaneous coronary intervention (PCI). We examined the characteristics and outcomes of women and men undergoing PCI over the past decade.
Methods: In this analysis, we studied 18,039 patients undergoing PCI at The Cleveland Clinic Foundation from 1992 to 2002. Mean follow-up duration was 4.8 years.
Results: Twenty-nine percent (n=5301) of the patients were female. Compared to the cohort of males, the female cohort was older (mean age 67 vs. 62 years) and had a greater prevalence of diabetes mellitus (34% vs. 24%), hypertension (71% vs. 58%), and peripheral vascular disease (9% vs. 7%); all p<0.0001. The mean left ventricular ejection fraction was slightly higher in the female group (54% vs. 52%, p<0.0001). There was no significant difference in baseline prevalence of renal insufficiency. Women were more likely to present with acute myocardial infarction (MI) (9% vs. 7%, p=0.0008) or unstable angina (67% vs. 58%, p<0.0001). Procedural success rates were similar in both genders, but the female cohort had a greater incidence of blood product transfusion (12% vs. 4%, p<0.0001) and hematoma (5% vs. 2%, p<0.0001) following PCI. The rate of MI at 1 year was slightly higher among females (10% vs. 9%, p=0.0035), though revascularization rates at 1 year were not significantly different between genders. One-year mortality was higher in the female cohort (7% vs. 5%, p<0.0001). After adjustment in a multivariate model, the Cox proportional hazard ratio for mortality in females was 1.01 (95% CI 0.93 to 1.11, p=0.78). The hazard ratio for the combined endpoint of death or MI was 1.05 (95% CI 0.97 to 1.13, p=0.23).
Conclusions: There is a greater incidence of post-procedural bleeding complications among women. After adjustment in a multivariate model, the risk for long-term mortality is not significantly different between genders following PCI.

1135-70 Gender Differences in Initial Diagnosis of Coronary Heart Disease

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Background: Much research exists on the evaluation and treatment of coronary heart disease (CHD) following initial presentation for chest pain or myocardial infarction (MI). Yet, little is known about evaluation of possible CHD preceding first MI and how it may differ in women and men. **Methods**: To determine and compare the timing of first CHD diagnosis and CHD risk factor identification and treatment in men and women prior to their first MI using a community population cohort of Olmsted County, Minnesota residents. All MIs were validated by standardized criteria. Using the Rochester Epidemiology Project, records of all health care providers in Olmsted County were reviewed and data were collected for the 10 years prior to incident MI. Primary endpoints were the date of first CHD diagnosis documented in the medical records and the dates of evaluation and treatment of CHD risk factors. **Results:** Data on pre-MI care were available for an average of 8.7 years for the 298 subjects (150 women and 148 men). Average age at incident MI was 74.7 years for women and 65.9 years for men (p<0.0001). About half of the women (52.1%), but only 30.24% of the men had a diagnosis of CHD prior to their first MI (p<0.01). For those having a CHD diagnosis prior to first MI, the average time between first CHD diagnosis and MI was 5.1 years and not different for men and women. Family history of CHD, blood lipids, and blood pressure were assessed in 88% to 100% of all men and women (pairwise p>0.05). Only assessment of blood glucose was different in men and women (66.9% of men vs. 88.0% of women (p=0.05). Treatment rates of identified risk factors did not differ by gender. Recognition of CHD and risk factor assessment prior to first MI increased with age. **Conclusions:** Men were less likely than women to have a diagnosis of CHD but similar rates of risk factor evaluation prior to their first MI. This may be explained by the later age at which women experience their first AMI (greater time for CDH recognition), delayed care seeking in the men or gender-related patterns of disease presentation (fewer prodromal symptoms in men). Irrespective of the reason, the results suggest less opportunity for CHD specific intervention in men prior to their first MI.

1135-71 Hormone Replacement Therapy and Cardiac Disease: A Challenge to Change Practice Patterns

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Background. Historically, hormone replacement therapy (HRT) has been an essential element in the management of postmenopausal women. Physicians are now re-examining treatment options after a major placebo-controlled primary prevention trial of the risks and benefits of combined estrogen and progestin therapy, a component of the Women's Health Initiative, was prematurely halted. Given the lack of evidence from randomized clinical trials supporting HRT's benefit beyond that of managing traditional menopausal symptoms, the objective of this study was to examine the characteristics of patients taking HRT in a large cardiology practice. **Method.** Of 73,969 female patients, 7,279 (10%) women (age 65 ± 11 yrs) are current HRT users undergoing treatment with conventional doses of conjugated equine estrogens with or without medroxyprogesterone acetate. **Results.** The mean length of time on HRT was 38 ± 23 months. An assessment of chronic disease status indicated that significantly more women on HRT had a diagnosis of hypertension, hypercholesterolemia, diabetes, or congestive heart failure (all p's < 0.001). Compared to women not taking HRT, women on HRT were more likely to be taking ACE inhibitors (OR= 6.63; 95% CI 6.15-7.14), lipid-lowering medications (OR= 9.54; 95% CI = 8.93 – 10.19), aspirin (OR= 10.10; 95% CI 9.48 –10.76), and beta blockers (OR= 7.40; 95% CI 6.93 – 7.91). We examined contraindications to HRT including smoking status and the presence of breast cancer, uterine bleeding, or deep vein thrombosis. Women on HRT were 6.2 times more likely to be smokers (OR=6.18; 95% CI 5.50-6.94). **Conclusions.** Accordingly, HRT use in a potentially high-risk population is frequent, although aggressive medical therapy is concomitantly utilized. Active interventions to change HRT prescribing practices may be appropriate.

1135-72 Higher Mortality and Less Evidence-Based Therapies Among Medicaid-Insured Patients With High-Risk Acute Coronary Syndromes: Results From CRUSADE

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Background: A recent Institute of Medicine report emphasizes that the healthcare system should aim to provide equitable and evidence-based care for all. The extent to which insurance coverage affects the care and outcomes of patients with non–ST-elevation acute coronary syndromes (NSTE ACS) is unknown.
Methods: We evaluated 16,755 patients aged <65 years with NSTE ACS (positive cardiac markers or ischemic ST-segment changes) treated at 292 US hospitals participating in the CRUSADE Initiative. We compared treatment and outcomes of Medicaid patients with non-Medicaid (HMO, private insurance, and self-insured) patients after adjusting for demographics, clinical factors, hospital features, and access to cardiology care.
Results: Medicaid patients were slightly older than non-Medicaid patients, and more were female (38% vs. 28%, p<.0001) and African-American (25% vs. 12%, p<.0001). Medicaid patients were less likely to be treated by a cardiologist (65% vs. 71%, p<0.001) and received fewer evidence-based treatments and procedures (Table). In-hospital mortality was nearly 50% higher in Medicaid patients, even after risk adjustment.
Conclusions: Medicaid patients younger than 65 admitted with NSTE ACS are less likely to receive evidence-based therapies and interventions and have significantly higher in-hospital mortality rates than those with other forms of insurance. The reasons for these inequities need to be explored.

	Medicaid (n=3,549)	**Non-Medicaid** (n=13,106)	**Adjusted OR** * (95% CI)
Acute Treatments			
Aspirin < 24 hrs	90%	94%	0.78 (0.68-0.90)
B-Blocker < 24 hrs	76%	81%	0.86 (0.77-0.95)
Heparin < 24 hrs	81%	87%	0.80 (0.72-0.89)
GP IIb-IIIa < 24 hrs	36%	49%	0.84 (0.76-0.94)
Cardiac Cath < 48 hrs	48%	67%	0.72 (0.66-0.79)
PCI < 48 hrs	27%	42%	0.78 (0.72-0.86)
Discharge Medications			
Clopidogrel	52%	62%	0.87 (0.80-0.95)
B-Blocker	81%	85%	0.86 (0.75-0.99)
Statin	61%	71%	0.78 (0.71-0.85)
Outcomes			
Death	3.3%	1.2%	1.46 (1.10-1.93)
Reinfarction	3.0%	2.5%	1.05 (0.83-1.33)

* For comparing Medicaid patients to non-Medicaid patients.